Kompernaß GmbH
Burgstraße 21
D-44867 Bochum (Germany)

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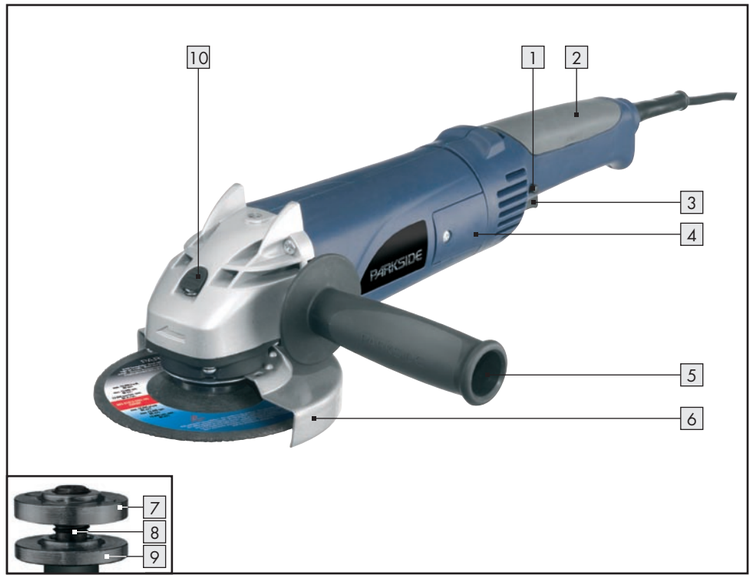
ANGLE**GRINDER**

PWS 1200

PARKSIDE

GB IE CY Before reading, unfold the page containing the illustrations and familiarise yourself with all functions of the device.

GB IE CY **ANGLE GRINDER**
Operation and Safety Notes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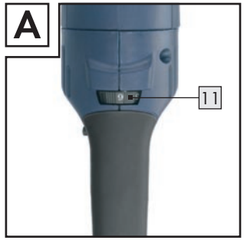
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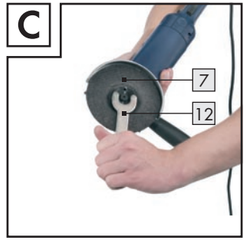
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E


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The following pictogrammes / symbols are used in these operating instructions:			
	Read the operating instructions!	n_0	Rated idle running speed
	Always heed warning labels and safety instructions!		Protection category II power tool; double insulated
	Caution - Danger of electric shock! Hazardous voltage – danger to life!		Proper procedure and handling.
	Explosive material!		Wear hearing protection, dust protection mask, protective glasses and protective gloves.
	Risk of fire!		Keep children and other unauthorised personnel at a safe distance when using electrical tools.
	Soft start to limit heavy transient current surges		Keep the device away from rain or moisture. Water entering an electrical device increases the risk of electric shock.
V~	Volt (AC)		Damaged appliances, power cables and power plugs mean potentially fatal risks from electric shock. Regularly check the condition of the appliance, the power cables and the power plugs.
W	Watts (effective power)		Dispose packaging and appliance in an environmentally-friendly way!

Angle grinder PWS 1200

Grinding, roughing, cutting and polishing

Introduction

Please make sure you familiarise yourself fully with the way the device works before you use it for the first time and that you understand how to handle electrical power tools correctly. To help you do this please read the accompanying operating instructions. Keep these instructions in a safe place. If you pass the device on to anyone else, please ensure that you also pass on all the documentation.

Proper use

The device is intended for the dry cutting, rough grinding and brushing of metal and stone. With approved types of abrasive consumables and tools the device can also be used for finish grinding and polishing. Any other use or modification to the device shall be considered as improper use and could give rise to considerable dangers. We will not accept liability for loss or damage arising from improper use. The device is not intended for commercial use.

Note: Slots cut in load-bearing walls must comply with standard DIN 1053 Part 1 or the regulations applicable in your country.

These instructions and advice must be observed. Before you start a task, seek the advice of a competent structural engineer, architect, or the relevant site management staff.

Features and equipment

1 Locking knob
2 Handle with softzone grip
3 ON/OFF switch
4 Carbon brushes access cover
5 Auxiliary handle
6 Adjustable disc guard cover
7 Clamping nut
8 Mounting spindle
9 Mounting flange
10 Spindle lock button
11 Rotation speed preselector wheel (Fig. A)
12 Spanner (Fig. C)

Included items

1 Metal-cutting disc, 125 x 2.5 x 22 mm
1 Auxiliary handle
1 Disc guard cover
1 Spanner
2 Replacement carbon brushes (not illustrated)
1 Operating instructions
1 Booklet covering "Warranty and service"

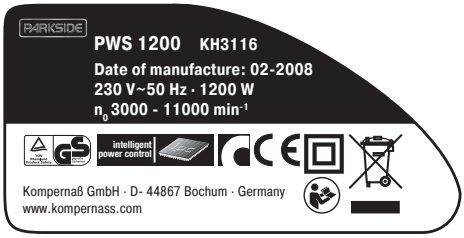
Technical information

Rated output:	1200 W
Rated voltage:	230 V ~ 50 Hz
Design no-load speed:	n_0 3,000 - 11,000 min^{-1}
Spindle thread:	M14
Protection class:	II / ⧈

Noise and vibration data:
Refers to A-weighted sound level.
Sound pressure level: 92.5 dB (A)
Sound power level: 105.5 dB (A)

Weighted acceleration, typical.
Hand-arm vibration: < 2.5 m/s^2

Wear hearing protection!



INTELLIGENT POWER CONTROL

The PWS 1200 angle grinder has INTELLIGENT POWER CONTROL.
This electronic management system monitors and controls the various operating states of your device.

Switching on:
The IPC electronic system start-up stage ensures that the motor starts up slowly and gently.

This largely avoids heavy transient current surges.

No-load running:
After switching on, the IPC electronic system takes the grinder's speed up to the preselected value (Setting 1 ... 6). After this is reached, the IPC system speed control stage keeps the grinder operating at a constant speed.

Overload operation:
The IPC electronic system ensures that the current is limited if the device becomes overloaded.

Safety advice

- Attention! In order to protect yourself from the danger of electric shock, injury or fire when using electrical power tools, please observe the following safety precautions. Read and take note of these instructions and advice before you use the device. Failure to observe the instructions and advice given below may result in electric shock, fire and/or serious injury.

Workplace safety

- Keep your working area clean and clutter-free. Ensure that your working area is well lit. Untidy or poorly lit working areas can lead to accidents.
-  **Risk of explosion!** Do not work with the device in potentially explosive environments in which there are inflammable liquids, gases or dusts. Electrical power tools create sparks, which can ignite dusts or fumes.
-  Keep children and other people away while you are operating the electrical power tool. Distractions can cause you to lose control of the device.

Electrical safety

To avoid danger to life from electric shock:

- The mains plug on the device must match the mains socket. The plug must not be modified in any way. Do not use an adapter plug with devices fitted with a protective earth. Unmodified plugs and matching sockets reduce the risk of electric shock.
- Avoid touching earthed surfaces such as pipes, radiators, ovens and refrigerators with any part of your body. There is an increased risk of electric shock if your body is earthed.
-  Keep the device away from rain or moisture. Water entering an electrical device increases the risk of electric shock.
- Do not use the mains lead for any purpose for which it was not intended, e.g. to carry the device, to hang it up or to pull the mains plug out of the mains socket. Keep the mains lead away from heat, oil, sharp edges or moving parts of the device. Damaged or tangled mains leads or plugs increase the risk of electric shock.
-  A damaged device, mains lead or plug presents a serious danger to life from electric shock. Frequently check the condition of the device, mains lead and plug.
- When working outdoors always use extension cables that are also approved for use outdoors. The use of an extension cable suitable for outdoor use reduces the risk of electric shock.
- Hold the device only by the insulated handles; bear in mind that you might cut through a concealed cable or the device's mains lead.
- Contact with a live wire can cause metal parts of the device to become live and lead to electric shock.
-  **Warning! Risk of explosion!** Use a suitable detector to locate concealed services supply cables/ pipes or approach your local public utilities services providers.
  Contact with electricity cables can lead to fire or electric shock. Damaging a gas pipe can lead to an explosion.
  Penetration of a water pipe can lead to property damage or to electric shock.
- Do not use the device if it has any damaged parts. If a dangerous situation arises pull out the mains plug from the socket immediately.
- **Warning!** - Never open the device.
  Always have any repairs carried out or replacement parts fitted at the service centre or by an electrical equipment repair specialist.

Personal safety

- Remain alert at all times and always watch what you are doing. Work carefully when using an electrical power tool. Do not use the device if you cannot concentrate or are tired or under the influence of drugs, alcohol or medication. Just one moment of carelessness when using the device can lead to serious injury.
-  Wear personal protective equipment and always wear safety glasses. The wearing of personal protective equipment such as dust masks, non-slip safety shoes, protective gloves, safety helmets or ear protectors, appropriate to the type of electrical power tool used and work undertaken, reduces the risk of injury.
- Avoid unintentional operation of the device.

Make sure that the switch is in the "OFF" position before you insert the mains plug into the socket. Accidents can happen if you carry the device with your finger on the ON/OFF switch or you have already switched the device on before you connect it to the mains.

- Remove any setting tools or spanners before you switch the device on.
  A tool or spanner left attached to a rotating part of a device can lead to injury.
- Do not overestimate your own abilities. Keep proper footing and balance at all times. By doing this you will be in a better position to control the device in unforeseen circumstances.
- Wear suitable clothing. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves clear of moving parts. If you have long hair, wear a hair net. Clothing, jewellery or hair that is loose or hangs from your body, head or limbs can become trapped in moving parts.

Careful handling and use of electrical power tools

- Do not overload the device. Always use an electrical power tool that is intended for the task you are undertaking. By using the right electrical power tool for the job you will work more safely and achieve a better result.
- Do not use an electrical power tool if its switch is defective. An electrical power tool that can no longer be switched on and off is dangerous and must be repaired.
- Pull the mains plug from the socket before you make any adjustments to the device, change accessories or when the device is put away. This precaution is intended to prevent you from unintentionally starting the device.
- When not in use always ensure that electrical power tools are kept out of reach of children. Do not let anyone use the device if he or she is not familiar with it or has not read the instructions and advice. Electrical power tools are dangerous when they are used by inexperienced people.
- Look after the device carefully. Check that moving parts are working properly and move freely. Check for any parts that are broken or damaged enough to detrimentally affect the functioning of the device. Have damaged parts repaired before you use the device. Many accidents have their origins in poorly maintained electrical power tools.
- Use the electrical power tool, accessories, inserted tools etc. in accordance with these instructions and advice, and the stipulations drawn up for this particular type of device. In doing this, take into account the working conditions and the task in hand. The use of electrical power tools for purposes other than those intended can lead to dangerous situations.

Safety advice relating specifically to this device

- Do not operate the device if the mains lead or mains plug is damaged.
- Do not touch the mains lead if it becomes damaged or cut through while you are using the device. Pull the plug out of the mains socket immediately and have the device repaired by a suitably qualified person or at your service centre.
- Do not operate the device if it is damp and do not use it in a damp environment.
- If you use the device outdoors, always connect it through a residual current device (RCD) with a maximum trip current of 30 mA. If using an extension lead, always use one that is approved for outdoor use.
- Do not suspend or carry the device by the mains lead. Always work with the mains lead leading away from the rear of the device.
- Grinding discs must be carefully kept and handled in accordance with the manufacturer's instructions.
- Make sure that abrasive consumables and tools are attached in accordance with the manufacturer's instructions and advice.
- Ensure that any spacers supplied and required for the use of certain abrasive consumables

and tools are installed.
- Do not use separate reducing bushes or adapters in order to make grinding discs with a larger bore fit.
- When using abrasive consumables and tools with a threaded insert make sure that the tread is long enough for the spindle length.
- Do not work in areas where there may be concealed electricity cables or gas or water pipes. Use a suitable detector or ask your local utility service providers. Contact with electricity cables can lead to fire or electric shock. Damaging a gas pipe can lead to an explosion. Penetration of a water pipe can lead to property damage or to electric shock.
-  **Danger of fire from flying sparks!** Cutting or grinding metal creates flying sparks. For this reason, always make sure that nobody is placed in any danger and that there are no inflammable materials near the working area.
- ⚠ **Warning! Noxious fumes!** Working with harmful / noxious dusts represents a risk to the health of the person operating the device and to anyone near the work area.
-  Wear ear protectors, safety glasses, breathing/dust mask and protective gloves.
- For longer periods of cutting or grinding metal or stone materials which give rise to dusts that are hazardous to health, the device must be connected to a suitable external dust extraction device.
- ⚠ **Warning! Danger of electric shock from metal dust!**
  Grinding or cutting metal can result in electrically conductive dust being deposited inside the device. In these circumstances the inside of the motor compartment must be blown out at frequent intervals with compressed air, vacuum extraction used and the device operated through a residual current device (RCD) with a maximum trip current of 30 mA.
- Ensure that there is adequate ventilation when working on plastic, paint, varnish etc.
- Do not soak the materials or the surface you are about to work on with liquids containing solvents.
- Wear close-fitting clothing and keep long hair inside a hairnet or suitable headwear.
- For safety reasons this device must always be used with the auxiliary handle [5] in place.
- The adjustable disc guard cover [6] must always be in place when working with roughing, grinding or cutting discs.
- Use the vacuum dust extraction facility if your work generates high amounts of dust. Use suction devices particularly approved for the purpose.
- Use permitted consumables and tools only. Check that the speed given on the discs is greater or equal to the rated speed of the device.
- Take note of the direction of rotation and always hold the device in such a way that the sparks and grinding debris are thrown away from your body.
- Make sure that the dimensions of the disc are suitable for the device and that the disc is of a type that fits properly on to the mounting flange [9].

Advice on use

Note! Discs must be used only for their recommended purposes, otherwise they could disintegrate, become damaged or cause accidents.

Roughing discs

 **Never use cutting discs for roughing or grinding!**

- Move the angle grinder using even pressure to and fro over the workpiece.
- Hold the roughing or grinding disc at a flat angle to the workpiece when working on a soft material. Use a slightly steeper angle for harder materials.

Cutting discs

Never use roughing or grinding discs for cutting!

- Only use certified fibre-reinforced cutting or grinding discs approved for use at circumferential speeds of not less than 80 m/s.
- ⚠ **Caution!** The disc continues to rotate after the device has been switched off. Do not attempt to slow it down by pressing on the side of the disc.
- Securely support the workpiece. Use clamps or a vice to grip the workpiece firmly. This is much safer than holding it in your hand.
- Switch the device off and allow it to come to a complete standstill before you put it down.
- Unlock the ON/OFF switch immediately if a power failure occurs or the plug is pulled out of the mains socket. Place the switch in the OFF position. This prevents the device from being inadvertently started up again.
- Use the device for dry cutting or dry grinding only.
- The auxiliary handle 5 must be in place whenever the device is being used.
- Do not work on materials containing asbestos. Asbestos is a known carcinogen.

A tip! Using the device safely.

⚠ **Danger!** Always guide the device through the workpiece against the direction of rotation of the disc. If you work in the other direction there is the risk of kickback. The device may be forced out of the cut.

- Always switch on the device before placing it against the workpiece. After cutting or grinding, always lift the device from the workpiece before switching it off.
- When working always hold the device securely with both hands (see Fig. D). Always keep proper footing and balance.
- For the best grinding performance move the device evenly to and fro over the workpiece maintaining an angle of 15° to 30° (between grinding disc and workpiece).
- When working on inclined surfaces do not press the device hard down on to the workpiece. If the speed slows greatly, use less pressure. This will allow you to work more effectively and safely. If the device suddenly stops due to it becoming retarded or trapped, pull the mains plug from the socket immediately.
- Cutting: Advance the device at an appropriate rate. Do not incline the cutting disc.
- Roughing, grinding and cutting discs get hot during use – allow them to cool fully before touching them.
- Never use the device for a purpose for which it was not intended.
- Before you insert the mains plug into the socket, always check that the device is switched off.
- If a dangerous situation arises, pull the mains plug immediately out of the mains socket. Ensure that the device and the mains plug are easily accessible and can be reached quickly in an emergency.
- When taking a break from your work, before carrying out any tasks on the device itself and when you are not using the device, always pull the mains plug out of the mains socket. Always keep the device clean, dry and free of oil or grease.
- Remain alert at all times! Always watch what you are doing and proceed with caution. Do not use the device if you cannot concentrate or you are feeling unwell.

Use

Operation

Take note of the mains voltage! The voltage must agree with that shown on the device's rating plate (equipment shown as 230 V can also be connected to 220 V).

Switching on and off

Check the attached consumable or tool before use. It must be attached properly, not damaged, damp or cracked and must rotate freely. Test the operation of the device for 30 seconds. If a disc is not round or vibrates, do not use it.
Look out for unusual noises or generation of sparks. Check that all the fastenings are correctly attached.

The device is fitted with an IPC electronic start-up system. After you press the ON/OFF switch 3 there is a delay before the motor starts.

Switching on:
- □ Press the ON/OFF switch 3.

Switching off:
- □ Release the ON/OFF switch 3 again.

Locking:
- □ Press the lock button 1 whilst pressing and holding down the ON/OFF switch 3.

Releasing the lock:
- □ Press the ON/OFF switch 3 again.

⚠ **Attention:** Wait until the electric motor has come to a complete standstill before you press the spindle lock button 10.

Setting the speed

- □ To increase the speed, turn the rotation speed preselector wheel 11 towards the 6 (6 = highest speed) setting.

- □ To decrease the speed, turn the rotation speed preselector wheel 11 towards the 1 (1 = lowest speed) setting.

Changing a disc

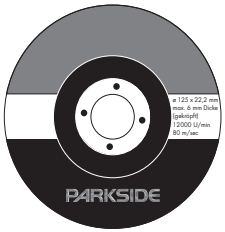
- ■  Always wear protective gloves when changing cutting or roughing/grinding discs.
- □ Press the spindle lock button 10 only after the mounting spindle 8 has reached a standstill, Fig. B.
- □ Press the spindle lock button 10 to block the drive.
- □ Release the clamping nut 7 using the spanner 12, Fig. C.
- □ Place the roughing, grinding or cutting disc on to the mounting flange 9 with its labelled side facing towards the device.
- □ Then replace the clamping nut 7, with its raised side facing upwards, on to the mounting spindle 8.
- □ Press the spindle lock button 10 to block the drive.
- □ Tighten the clamping nut 7 again with the spanner 12.
  Note: Replace a new disc immediately if it runs unevenly or vibrates after being exchanged.
- □ After replacing a disc let the device run under no load for 30 seconds as a safety check. Look out for unusual noises or generation of sparks.
- □ Check that all the fastenings are correctly attached.
- □ Pay attention to see that the arrow showing the direction of rotation on the cutting or roughing/grinding discs (including diamond cutting discs) corresponds with the direction of rotation of the device (see arrow on the head of the device).

Use of accessories

Cutting / roughing discs

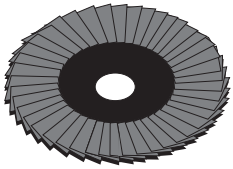
You can use the following cutting or roughing/ grinding discs with this device:

Dimensions:	ø 125 x 22,2 mm to max. 6 mm thick (depressed centre)
Speed:	12,000 rpm
Circumferential speed:	80 m / sec



Flap discs for metal

Dimensions:	ø 125 mm
Speed:	min. 12,000 rpm



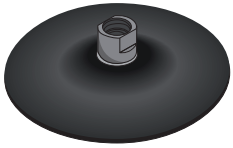
Other accessories

You can also use abrasive consumables and tools complying with the following technical specification:

Spindle thread:	M14
Speed:	min. 12,000 rpm

Backing plate for grinding discs

Dimensions:	ø 115 mm / 125 mm



Grinding discs for wood / masonry attached with hook and eye fixings

Dimensions:	ø 115 mm / 125 mm

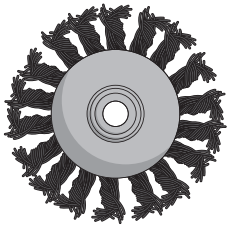
Note! These may only be used in combination with a backing plate!

Cup brush, crimped wire

Dimensions:	ø 75 - 100 mm

Cup brush, twisted wire
Dimensions: ø 75 mm

Cup brush, knotted wire
Dimensions: ø 115 mm



Adjusting the disc guard cover

- Pull the mains plug out of the mains socket before you carry out any task on the device.
- **Danger of injury!** Always use the angle grinder with the disc guard cover 6 in place. The disc guard cover must be securely attached to the angle grinder. To ensure the highest level of safety while using the device, ensure that the smallest possible area of the grinding or cutting tool is exposed to the operator at all times. The disc guard cover 6 is there to protect the operator from pieces breaking off and accidental contact with the grinding or cutting tool.
  The disc guard cover has 5 set positions.
- □ Turn the disc guard cover 6 into the desired position (working position). The closed side of the disc guard cover 6 must always be facing the operator.

Using the auxiliary handle

⚠ **Attention!** For safety reasons this device must always be used with the auxiliary handle 5 in place. The auxiliary handle 5 can be screwed on to the left, right or on the top of the head of the device.

Maintenance and cleaning

- Pull the mains plug out of the mains socket before you carry out any task on the device.
- Do not use sharp objects for cleaning the device. Do not allow any liquids to enter the device.
- □ Have the carbon brushes replaced only at the service centre or an accredited electrical equipment repair centre. The device requires no other maintenance.
- □ Clean the device frequently; for best results do this immediately after you have finished using it.
- □ Use a dry cloth to clean the housing – under no circumstances use petrol, solvents or cleaning agents that attack plastic.
- □ A vacuum cleaner is required to thoroughly clean the device.
- □ Ventilation openings must always be kept free.
- □ Remove any adhering dust with a narrow paint brush.

Disposal

The packaging is wholly composed of environmentally-friendly materials that can be disposed of at a local recycling centre.

Do not dispose of electrical power tools with the household rubbish!

In accordance with European Directive 2002 / 96 / EC (covering waste electrical and electronic equipment) and its transposition into national legislation, worn out electrical power tools must be collected separately and taken for environmentally

compatible recycling.
Contact your local refuse disposal authority for more details of how to dispose of your worn out electrical devices.

Information

Service centre

The service centre for your country is shown in the warranty documentation.

- Have your device repaired only by qualified specialist personnel using original manufacturer parts only. This will ensure that your device remains safe to use.
- If the plug or mains lead needs to be replaced, always have the replacement carried out by the manufacturer or its service centre. This will ensure that your device remains safe to use.

Declaration of Conformity / Manufacturer CE

We, Kompernaß GmbH, Burgstr. 21, D-44867 Bochum, Germany, declare that this product complies with the following EU directives:

Machinery Directive (98 / 37 / EC)

EU Low Voltage Directive (2006 / 95 / EC)

Electromagnetic Compatibility (89 / 336 / EEC)

Type / device description:
Angle grinder PWS 1200

Bochum, 31.08.2007

Hans Kompernaß
- Managing Director -

We reserve the right to make technical modifications in the course of further development.